2005 Update on ConferenceXP:

A Research Project for Advanced Collaboration and Conferencing

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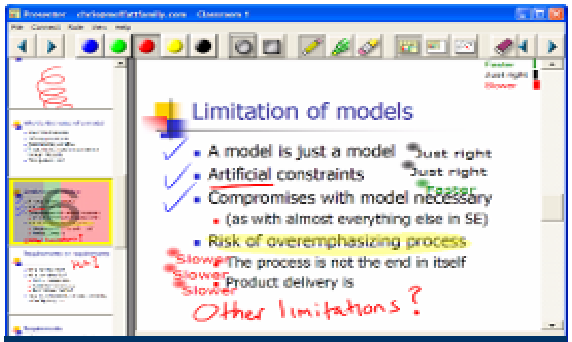
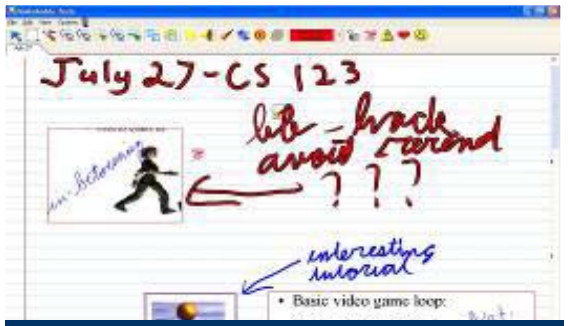
The ConferenceXP Project

How compelling and deep can we make the experience if we assume high bandwidth, wireless devices, and Windows?

Collaboration



Presentation Collaboration



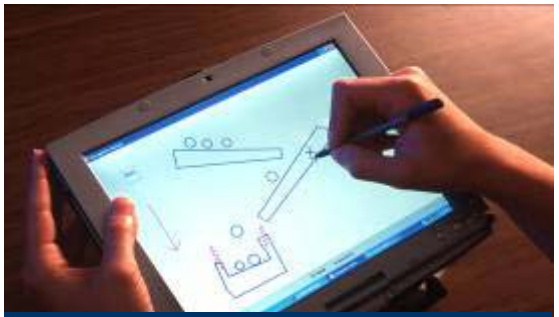
Student Collaboration

Conferencing

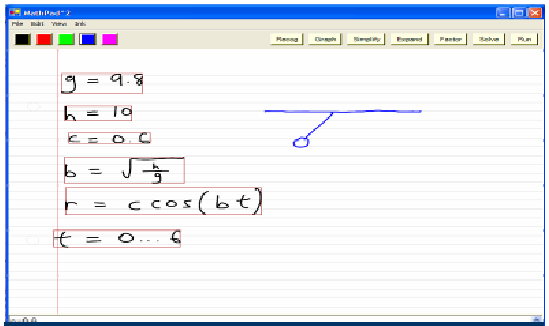
Classroom Experience

Mentor Experience

Visualization



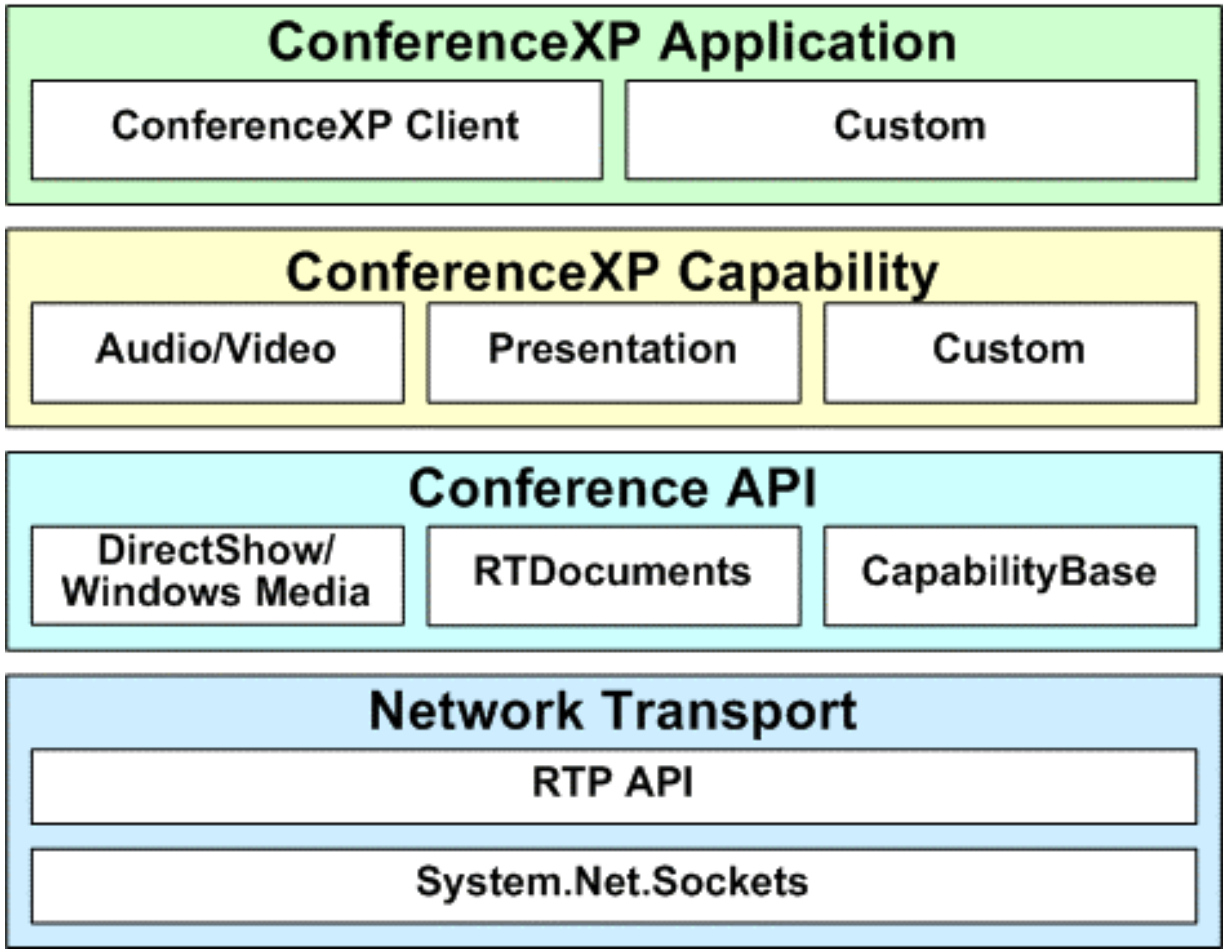
Simulation Experience



Gaming Experience

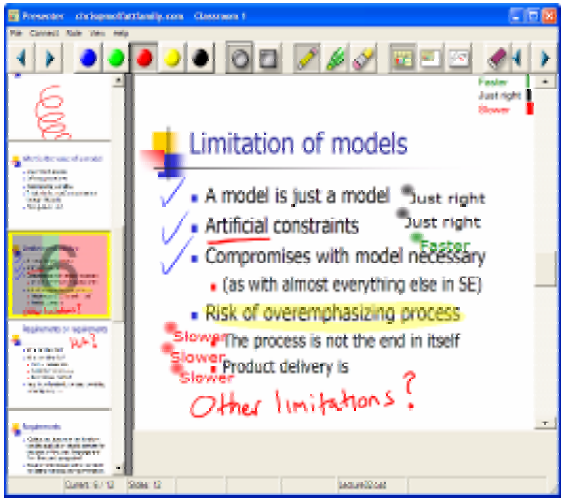
Goals

- Build a research platform to support conferencing and the development of rich collaborative applications.



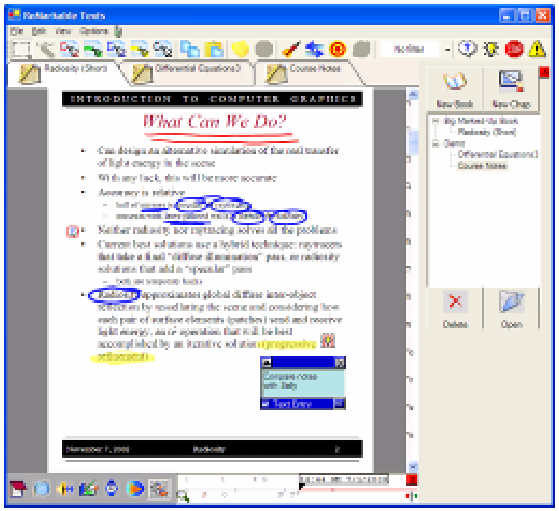
Goals

- Build research platform to support conferencing and the development of rich collaborative applications
- Collaborate with the research community to prototype collaboration and conferencing applications that use ConferenceXP



Presenter (UW)

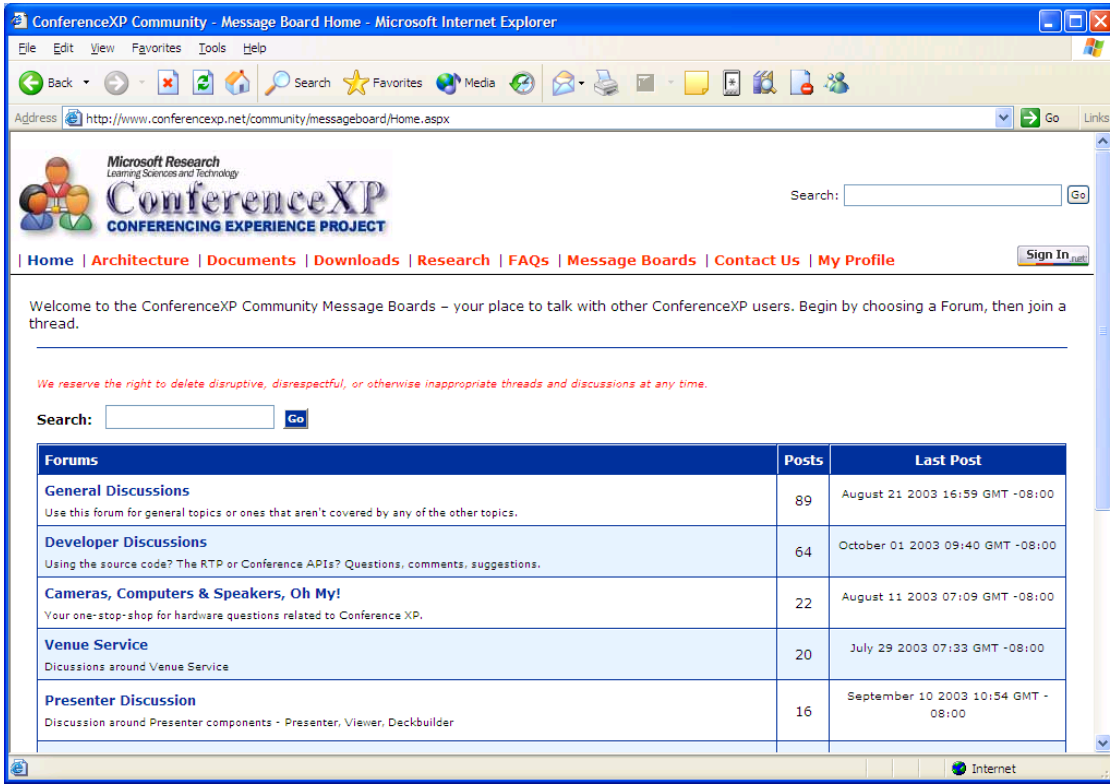
ConferenceXP Client



Remarkable Texts

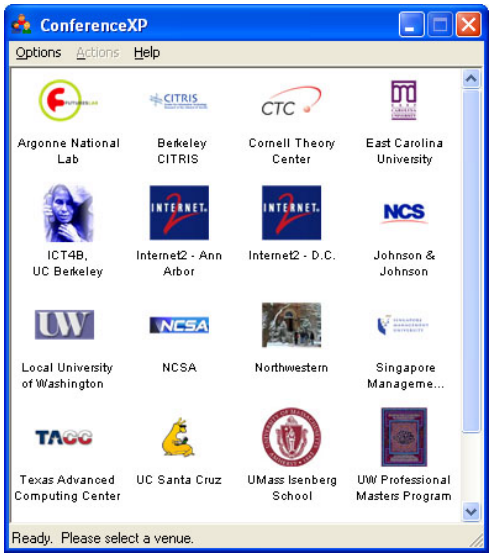
Goals

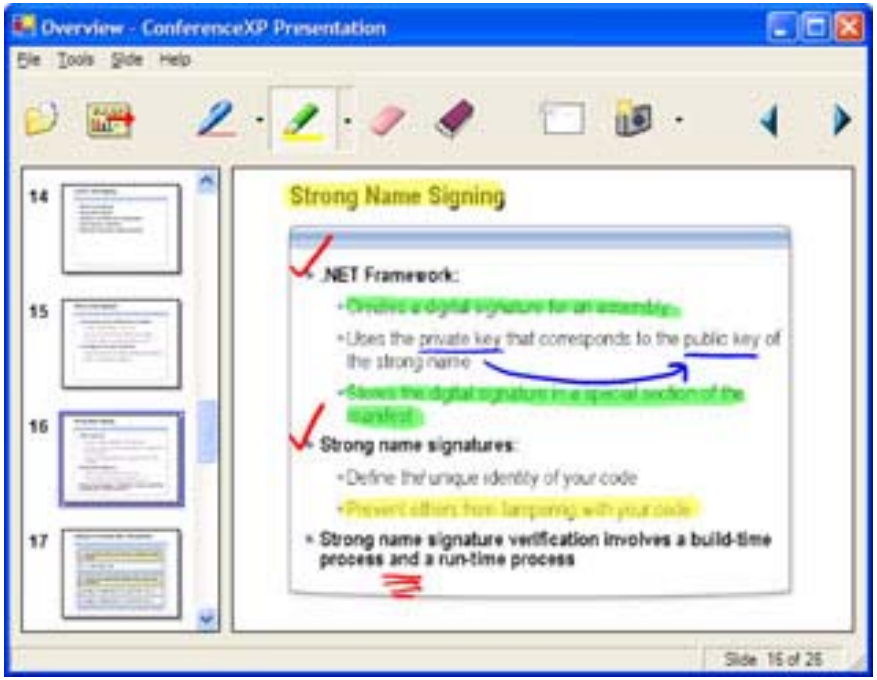
- Build research platform to support conferencing and the development of rich collaborative applications
- Collaborate with research community to prototype learning applications that use ConferenceXP
- Develop a community of developers and implementers



ConferenceXP Client

- High-quality multipoint conferencing
- Peer-peer, multicast architecture
- Full-screen real-time video at 30 fps
- Built-in presentation capability





Why Windows?

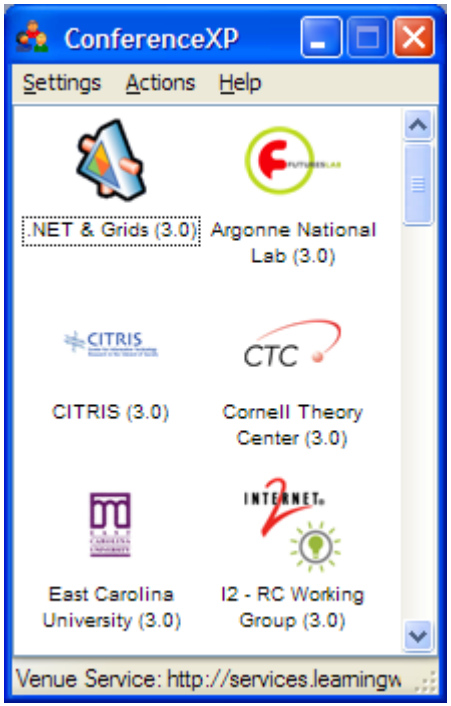
- World class codecs in the box:
  - Audio
  - Video
  - Screen Capture
- Managed Code & .NET Framework
- Web Services support
- Single platform development

What's new in 2005?

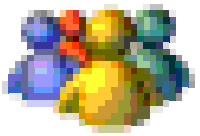
- Releases
  - Versions 3.0 & 3.1
  - Venue Service 2.0
  - Reflector Service 1.0
  - Archive Service 1.0
- "PMP++" – Four-way Distance Learning
- 2005 RFP

ConferenceXP Client 3.0 & 3.1

- Improved & Multiple camera support
- Reed-Solomon Forward Error Correction
  - → Excellent wireless performance
- Cleaner, more usable A/V UI
  - → Remote & local pause
  - → Remote volume control

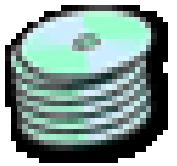


“Services 2.0”



- Venue Service 2.0
  - More light-weight
  - Easier to use administrative tools

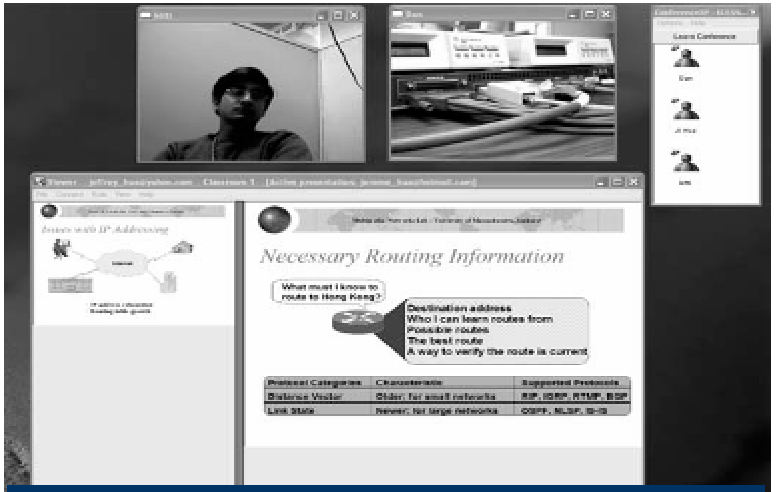
- Reflector Service 1.0
  - Multicast to unicast bridge
  - Version 2.0, under research at MSU, should feature “bridging” of multicast clouds



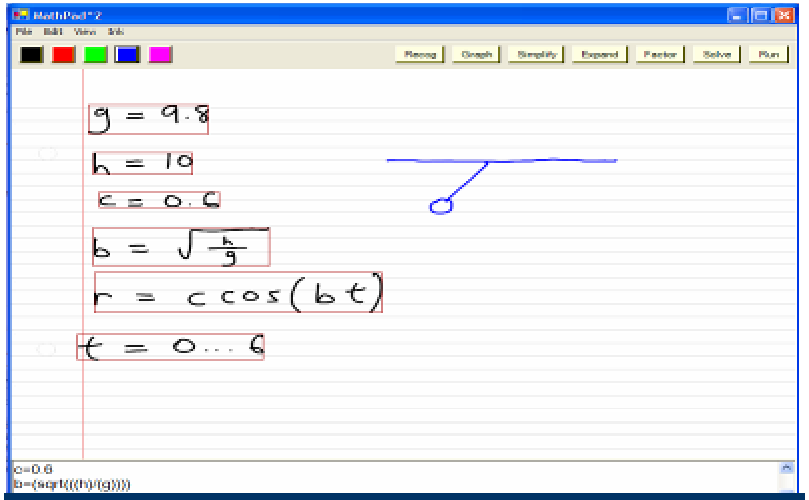
- Archive Service 1.0
  - Direct-to-database archiving of *any* ConferenceXP data
  - Moderate recording performance (20 MBps on a single IDE disk), with improvements expected
  - Simple, efficient design; needs validation and APIs

University of Washington
Professional Masters Program (CS)

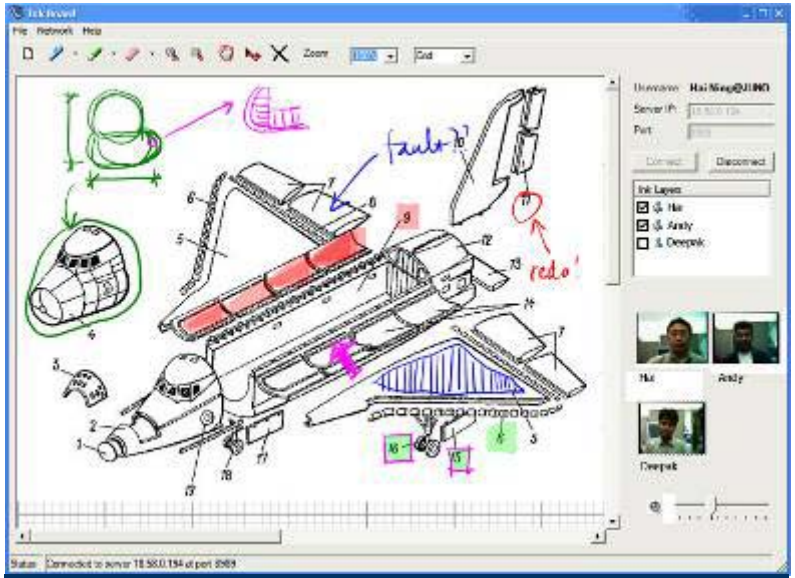
Sample Research Applications built on CXP



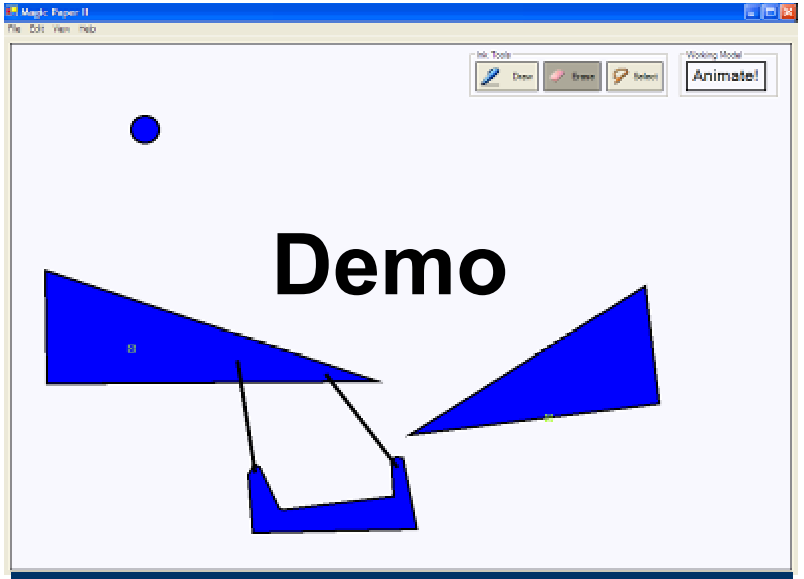
Collaborative Labs - Amherst



Math Visualization - Brown



Design Sketching - MIT



Collaborative Physics Sketching

Current Problems:

Good News:

- Same networking and A/V requirements as the Access Grid.

Bad News:

- Same networking and A/V requirements as the Access Grid.
- ***Deploying multi-cast enabled applications on Internet2 continues to be very, very painful!***
- ***Installing and configuring acoustic echo cancellation is difficult and expensive.***
- No C#/Managed Code for the Mac today (codecs, yes)
- IT support for servers
- Constant monitoring for remote classrooms and conferencing sessions

Areas for Future Research and Collaboration

- Interoperability with Access Grid
- Generic application display support
- “Venueless Operation” (true peer2peer)
- Archive Server APIs
- Federated Venue Server capability
- Secure operation
- Full IM integration
- Enhanced unicast support
- Intelligent unicast fallback

Getting Involved

- Joint the ConferenceXP Community site
- Deploy a ConferenceXP Personal Node
- Talk to us about your ideas for cool, collaborative applications that can be enabled over ConferenceXP

- http://www.conferencexp.net

Questions?